

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

In re Application of : Customer Number: 46320
John HIND, et al. : Confirmation Number: 5123
Application No.: 10/047,860 : Group Art Unit: 2165
Filed: January 15, 2002 : Examiner: N. Abel-Jalil
For: EDGE DEPLOYED DATABASE PROXY DRIVER

TRANSMITTAL OF APPEAL BRIEF

Mail Stop Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Submitted herewith is Appellant's Appeal Brief in support of the Notice of Appeal filed March 28, 2006.

To the extent necessary, a petition for an extension of time under 37 C.F.R. § 1.136 is hereby made. Please charge any shortage in fees due under 37 C.F.R. §§ 1.17, 41.20, and in connection with the filing of this paper, including extension of time fees, to Deposit Account 09-0461, and please credit any excess fees to such deposit account.

Date: May 30, 2006

Respectfully submitted,

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APPEAL BRIEF

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Alexandria, VA 22313-1450

Sir:

This Appeal Brief is submitted in support of the Notice of Appeal filed March 28, 2006, and in response to the Pre-Appeal Brief Conference decision dated April 25, 2006, wherein Appellants appeal from the Examiner's rejection of claims 1-19.

I. REAL PARTY IN INTEREST

This application is assigned to IBM Corporation by assignment recorded on January 15, 2002, at Reel 012517, Frame 0361.

II. RELATED APPEALS AND INTERFERENCES

Appellants are unaware of any related appeals and interferences.

III. STATUS OF CLAIMS

Claims 1-19 are pending in this Application and have been finally rejected. It is from the final rejections of claims 1-19 that this Appeal is taken.

IV. STATUS OF AMENDMENTS

The claims have not been amended subsequent to the imposition of the Final Office Action dated November 11, 2005.

V. SUMMARY OF CLAIMED SUBJECT MATTER

Independent claims 1, 6, and 13 are respectively directed to a system, method, and machine readable storage for accessing a database server. Referring to Figure 1 and pages 9 and 10 of Appellants' specification, a database driven application (e.g., Application 160) is programmatically linked to a database proxy driver (e.g., Data Access Middleware Proxy 170). The database proxy driver 170 is provided with access to the database server (e.g., Back End DB 190) through the universal database connectivity driver (e.g., Data Access Middleware 180). Referring to page 11 of Appellants' specification, to accommodate the seamless integration of the database proxy driver 170 with the database-driven application 160, the database proxy driver 170 can include an application programming interface (API) which conforms with the API of the underlying database connectivity driver 180.

Referring to the first full paragraph on page 15 of Appellants' specification, the present invention includes an additional layer between the application 160 and the underlying database connectivity drivers 180. By reconfiguring connectivity references in the application 160, all database calls can be processed in the database proxy driver 170. The database proxy driver 170

can therefore perform edge tasks transparently while also invoking the database access functionality of the underlying database connectivity drivers 180. The addition of edge task processing functionality can occur without modifying either the application 160 or the database server 180.

VI. ISSUE TO BE REVIEWED ON APPEAL

1. Claims 1-19 were rejected under 35 U.S.C. § 102 for anticipation based upon Smith et al., U.S. Patent Publication No. 2002/0065899 (hereinafter Smith).

VII. THE ARGUMENT

THE REJECTION OF CLAIMS 1-19 UNDER 35 U.S.C. § 102 FOR ANTICIPATION BASED UPON SMITH

For convenience of the Honorable Board in addressing the rejections, claims 3-6, 8-13, and 15-19 stand or fall together with independent claim 1, and claims 7 and 14 stand or fall together with dependent claim 2.

On pages 2 and 3 of the Request for Reconsideration filed August 16, 2006, in response to the Examiner's second Office Action dated May 16, 2005, in which the Examiner rejected claims 1-19 for anticipation based upon Smith, Appellants cited 37 C.F.R. § 1.104(c)¹ and

¹ 37 C.F.R. § 1.104(c) provides:

In rejecting claims for want of novelty or for obviousness, the examiner must cite the best references at his or her command. When a reference is complex or shows or describes inventions other than that claimed by the applicant, the particular part relied on must be designated as nearly as practicable. The pertinence of each reference, if not apparent, must be clearly explained and each rejected claim specified.

asserted that "the Examiner neither clearly designated the teachings in Smith being relied upon nor clearly explained the pertinence of Smith."

Specifically with regard to independent claim 1, Appellants argued the following:

In the statement of the rejection with regard to claim 1, the Examiner merely copied the language of claim 1 and asserted that the features recited therein are identically disclosed within paragraphs [0016], [0057], [0059], [0071], and [0072]. The Examiner, however, fails to clearly and specifically designate those teachings within the cited paragraphs being relied upon. Each of the cited paragraphs within Smith contains several disclosures, and Applicants have been improperly forced to guess as to what features in Smith the Examiner believes identically discloses the claimed features.

On pages 4 and 5 of the Request for Reconsideration, Appellants analyzed the passages within Smith cited by the Examiner in the statement of the rejection and came to the conclusion that Smith fails to identically disclose all of the features of the claimed invention, as recited in claim 1.

Despite Appellants' assertion that the Examiner has failed to clearly designate the teachings in Smith being relied upon by the Examiner, in the Final Office Action dated November 1, 2005, the Examiner maintained the rejection of claims 1-19 for anticipation based upon Smith, and merely copied, word-for-word, the Examiner prior statement of rejection from the second Office Action into the Final Office Action. The Examiner, however, directly responded to Appellants' arguments in the section entitled "**Response to Arguments**" on pages 6-8 of the Final Office Action.

In response to Appellants' argument that the Examiner has failed to comply with 37 C.F.R. § 1.104(c), on page 6 of the Final Office Action, the Examiner cited 37 C.F.R. § 1.192(c)(8)(iv) for the proposition that "Smith must be considered as a whole and not just the

suggested citations relied on by the Examiner ... Applicant is response for the whole reference." At the outset, Appellants note that (i) 37 C.F.R. § 1.192 no longer exists; (ii) even when it did exist, 37 C.F.R. § 1.192 only applied to an Appeal Brief; and (iii) 37 C.F.R. § 1.192 did not support the Examiner's assertion.

Notwithstanding that all teachings within a reference can be applied by the Examiner, the Examiner still has the responsibility and burden to clearly identify the features in Smith being relied upon. However, as will be described in greater detail below, the Examiner's attempt to clarify the rejection in the "*Response to Arguments*" only serves to further obfuscate the Examiner's rationale for rejecting the claims under 35 U.S.C. § 102 for anticipation based upon Smith. By continuing to fail to specifically and clearly identify those features within Smith being relied upon in the rejection, as will more be evident below, the Examiner has forced Appellants to speculate as to how the Examiner is interpreting the elements of the claims and as to what features within Smith the Examiner believes identically disclose the claimed invention.

As noted by Appellants on page 3 of the Request for Reconsideration, claim 1 recites, in part, the following features: (i) universal database connectivity driver; (ii) database server; (iii) database proxy driver; and (iv) database driven application. For ease of reference, referring to Fig. 1 of Appellants' disclosure, these features are illustrated as follows: (i) universal database connectivity driver (e.g., Data Access Middleware 180); (ii) database server (e.g., Back End DB 190); (iii) database proxy driver (e.g., Data Access Middleware Proxy 170); and database driven application (e.g., Application 160).

The Examiner's statements in the Final Office Action regarding the claimed "database server" evidence the Examiner's confusing and inconsistent rationale for rejecting claim 1. In the initial statement of the rejection on page 2 of the Final Office Action, the Examiner cited paragraphs [0071] and [0072] of Smith to allegedly identically disclose the first limitation, which contains the first reference to the claimed database server. On page 7 in the *"Response to Arguments,"* the Examiner then asserted:

While a "database server" is shown in Figure 4, as "Web server" which too has a driver in order to be able to connect to the rest of the network disclosed on page 7, paragraph 0075.

On page 7, the Examiner also asserts:

On page 5, paragraph 0056, the "Edge Cache 108" is clearly shown as an intermediary between the origin site (i.e., "Web server") and clients.

Thus, the Examiner is asserting that the "Web server" (i.e., in the first assertion) and the "origin site" (i.e., in the second assertion) are identical. However, the origin site 104 is shown in Fig. 4 of Smith as being separate from the web server 420. These inconsistent statements by the Examiner as to the identity of the claimed database server has caused Appellants to speculate as to what exact teachings in Smith are being relied upon by the Examiner in the statement of the rejection. It is also interesting to note that the paragraphs within Smith cited by the Examiner in the *"Response to Arguments,"* are not consistent with the paragraph within Smith cited by the Examiner in the initial statement of the rejection, which is further evidence of the Examiner's failure to clearly designate the teachings in Smith being relied upon by the Examiner.

Claim 1 recites that the universal database connectivity driver is connected to the database server² and that access to the database server, through the universal database

² Claim 1 recites, in part, the following: "a universal database connectivity driver having a first exposed interface through which access to a database server can be provided."

connectivity driver, can be provided to the database proxy driver.³ Thus, according to claim 1, the universal database connectivity driver is between the database proxy driver and the database server.

Presuming that the Examiner intended to assert that the web server 420 corresponds to the claimed database server (i.e., the Examiner's first assertion), the Examiner is asserting that the edge cache 108 (presumably corresponding to the claimed "universal database connectivity driver") is an intermediary between (i.e., providing access to) the web server 420 (i.e., the asserted database server) and the client 102 (presumably corresponding to the claimed database proxy driver). However, upon viewing Fig. 4 of Smith, the edge cache 108 is not between the web server 420 and the client 102. Instead, the web server 420 is part of the edge cache 108. Moreover, Fig. 4 illustrates that the client 102 (i.e., the asserted database proxy driver) is directly connected to the web server 420 (i.e., the asserted database server). Presuming that the Examiner intended to base the rejection on these associations between claimed features and disclosed elements, the Examiner has failed to explain the rationale why client 102 uses the edge cache 108 as an intermediary to connect to the web server 420 when Fig. 4 clearly shows that the client 102 directly connects to the web server 420.

On page 7 of the Final Office Action, the Examiner also asserts:

A "database driven application" is taught in Figure 4, 412, Application Server, which has access to database 130.

³ Claim 1 recites, in part, the following: "said database proxy driver having a configuration for invoking at least one auxiliary task in addition to providing access to said database server through said first exposed interface of said universal database connectivity driver."

Presuming the Examiner intended to assert that the edge cache 108 is between the origin site 104 and the client 102 (i.e., the second assertion), the third assertion by the Examiner identified immediately above regarding the database driven application raises issues. The claims recite the database driven application (i.e., feature 412 of Smith) is programmatically linked to the database proxy driver (presumably the client 102), which provides access to the database server (presumably the origin site 104) through an interface with an universal database connectivity driver (presumably the edge cache 108).

Thus, based upon the above presumed interpretations of what features the Examiner is relying upon in the statement of the rejection, the Examiner appears to be asserting that: feature 412 of Smith links to feature 102, which links to feature 108, which provides access to feature 130. There is, however, no apparent disclosure within Smith that supports the Examiner's assertion that feature 412 links to feature 130 via features 102 and 108. Instead, Fig. 4 of Smith illustrates that the application server 412 (i.e., the asserted "database driven application") has direct access to the database 130. Thus, Appellants respectfully submit that one having ordinary skill in the art would not recognize that Smith identically discloses the limitations recited in claim 1.

Furthermore, Appellants submit that the Examiner has failed to establish that, given the ordinary and customary meaning attributed to the term "database proxy driver," one having ordinary skill would have considered that the client 102 of Smith identically discloses the claimed database proxy driver. The term "proxy," given its ordinary and customary meaning attributed to it by one skilled in the art, implies an intermediary device through which

communications pass. The client 102 of Smith, however, is not described as an intermediary device. Although the client 102 of Smith may interact with multiple devices, Smith does not teach that these devices communicate with one another through the client 102. Therefore, one having ordinary skill in the art would not recognize that the client 102 acts as a proxy and, thus, would not consider that the client 102 corresponds to the claimed database proxy driver, as asserted by the Examiner.

On page 4 of the Request for Reconsideration, Appellants argued that:

Furthermore, with regard to the claimed connectivity driver, which is allegedly disclosed in paragraphs [0071], [0072] of Smith, a review of this citation only yields a teaching of "other driver embodiments, such as the ODBC standard, provide for both an isolation level and a concurrency level." This however, is not a teaching of a driver separate from the claimed database proxy driver (i.e., the alleged edge cache 108).

The Examiner responded to this argument in the last full paragraph on page 7 of the Final Office

Action, by asserting:

The Examiner maintains that on page 7, paragraph 0072, the ODBC is taught as being "isolated" which is broadly interpreted as being separate from the subsequent teachings of "proxy driver of the database" that is only invoked if necessary as stated in paragraph 0075.

The Examiner's assertion that "on page 7, paragraph 0072, the ODBC is taught as being "isolated"" is factually incorrect and not germane to the claimed invention. Paragraph [0072] of Smith only states that "other driver embodiments, such as the ODBC standard, provide for both an isolation level and a concurrency setting." The provision of "both an isolation level and a concurrency setting" does not correspond to the driver "as being separate," as asserted by the Examiner. Moreover, the Examiner has failed to establish that the ODBC corresponds to the claimed universal database connectivity driver (i.e., "separate from the claimed database proxy driver"). Also, the Examiner's assertions in the paragraph spanning pages 7 and 8 are not

factually supported and are only generalizations that have not been associated with specific teachings within Smith.

In the paragraph spanning pages 4 and 5 of the Request for Reconsideration, Appellants argued that:

Still further, claim 1 recites that the database proxy driver has a second exposed interface that conforms with a first exposed interface of the universal database connectivity driver. Even *assuming arguendo* that Smith discloses a driver separate from the database proxy driver, Smith fails to teach that each driver includes an exposed interface that conform with one another.

The Examiner responded to this argument in the second full paragraph on page 8 of the Final Office Action, by asserting:

The Examiner maintains since both the database proxy driver and the universal database driver are communicating in the same network and are defined as such in Smith Figure 1, their interfaces are conforming to each other and are deemed to be exposed since they are accessible by all clients who wish to be connected on the Internet Figure 1, 110, Network.

Not only has the Examiner failed to factually establish that Smith explicitly teaches this limitation, on its face, this limitation cannot be considered to be inherently taught by Smith. Inherency may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient to establish inherency.⁴ To establish inherency, the extrinsic evidence must make clear that the missing element must necessarily be present in the thing described in the reference, and that the necessity of the feature's presence would be so recognized by persons of ordinary skill.⁵ The Examiner did not discharge that burden of indicating where, in the prior art, the teaching that certain devices may be communicating in the same network necessarily requires that the devices have conforming

⁴ *In re Rijckenaert*, 9 F.3d 1531, 1534, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993) (reversed rejection because inherency was based on what would result due to optimization of conditions, not what was necessarily present in the prior art); *In re Oelrich*, 666 F.2d 578, 581-82, 212 USPQ 323, 326 (CCPA 1981).

⁵ *Finnegan Corp. v. ITC*, 180 F.3d 1354, 51 USPQ2d 1001 (Fed. Cir. 1999); *In re Robertson*, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999); *Continental Can Co., USA v. Monsanto Co.*, 20 USPQ 2d 1746 (Fed. Cir. 1991); *Ex parte Levy*, 17 USPQ2d 1461 (BPAI 1990).

interfaces appears. Millions of devices connect to the internet (i.e., "the same network"), yet all of these devices do not necessarily have conforming interfaces. Therefore, the Examiner has failed to establish that Smith explicitly or inherently discloses the claimed first and second exposed interfaces.

Therefore, for the reasons stated above, Appellants respectfully submit that the limitations recited in claim 1 distinguish the claimed invention over Smith.

Claim 2

On page 5 of the Request for Reconsideration, with regard to claim 2, Appellants argued that:

With regard to claim 2, the Examiner asserted that the features recited therein are identically disclosed in paragraph [0030] of Smith. Appellants respectfully disagree. Smith merely states that "[e]dge caches 108 include replicated data 120 and application logic 122." This teaching, however, is not comparable to the claimed feature that the universal database connectivity driver, database proxy driver and database driven application are disposed in an edge device.

The Examiner responded to this argument in the final full paragraph on page 8 of the Final Office Action, by asserting:

The Examiner maintains that the Edge device has a cache (see page 7, paragraph 0074) wherein upon receiving a database request, it determines if the request is needed to be proxied then it will be forwarded to right processing logic. Therefore, it is clear that the edge device has all the stated drivers in order to process specified requests intermediary between the client and the origin site as taught in paragraph 0075 (connectivity to database and connectivity to the client are shown).

The Examiner's assertion reproduced above is based on faulty logic. The Examiner appears to be arguing that an edge device has a cache, and upon receiving a request, "criteria can be applied to determine whether the request is otherwise suitable for processing by edge cache 108" (paragraph [0074]). Smith also states that "[i]f it is determined that the database request should be proxied, then the database request is forwarded on to origin site 104 for processing." The

Examiner asserts that "the edge device has all the stated drivers in order to process specified requests intermediary between the client and the origin site." Therefore, the Examiner appears to be asserting that "the universal database connectivity driver, database proxy driver and database driven application" are all found in the edge cache 108.

The above assertion that "the universal database connectivity driver, database proxy driver and database driven application" are found in the edge cache 108, however, is contrary to the Examiner's previously asserted positions that the claimed database proxy driver is identically disclosed by the client 102 and the claimed database driven application is identically disclosed by the application server 412. Fig. 4 of Smith clearly shows that these features are not found in the edge cache 108.

Moreover, Appellants are unaware of any teachings within Smith that support a finding that both the client 102 and the application server 412 are necessary found in "an edge device in a computer communications network" (emphasis added). As noted in emphasis, each of these three recited features (i.e., the universal database connectivity driver, database proxy driver and database driven application) are recited as being disposed in a singular edge device (claims 2 recites "an edge device," and not "edge devices"). Based upon any interpretation of what features within Smith the Examiner has asserted identically discloses the claimed universal database connectivity driver, database proxy driver and database driven application, it is apparent that none of the interpretations yields a teaching that all three of the above-recited features are found in a singular device. Thus, for the reasons stated above, Appellants respectfully submit that the limitations recited in claim 2 further distinguish the claimed invention over Smith.

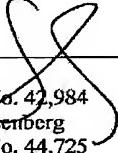
Conclusion

Based upon the foregoing, Appellants respectfully submit that the Examiner's rejections under 35 U.S.C. § 102 for anticipation based upon the applied prior art is not viable. Appellants, therefore, respectfully solicit the Honorable Board to reverse the Examiner's rejections under 35 U.S.C. § 103.

Date: May 30, 2006

Respectfully submitted,

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VIII. CLAIMS APPENDIX

1. A database access system comprising:

a universal database connectivity driver having a first exposed interface through which access to a database server can be provided;

a database proxy driver registered with said universal database connectivity driver, said database proxy driver having a second exposed interface which conforms with said first exposed interface of said universal database connectivity driver, said database proxy driver having a configuration for invoking at least one auxiliary task in addition to providing access to said database server through said first exposed interface of said universal database connectivity driver; and,

a database driven application programmatically linked to said database proxy driver.

2. The database access system of claim 1, wherein each of said universal database connectivity driver, database proxy driver and database driven application are disposed in an edge device in a computer communications network.

3. The database access system of claim 2, wherein said auxiliary task is load balancing.

4. The database access system of claim 1, wherein said auxiliary task is caching.

5. The database access system of claim 1, further comprising:

a log file of data request meta-information; and,

an application analyzer configured to tune operation of said auxiliary task based upon said meta-information.

6. A database access method, the method comprising:

receiving a database connectivity request through a corresponding first exposed database connectivity method from a database driven application;

forwarding said database connectivity request to an underlying database connectivity driver through a corresponding second exposed method having a method prototype which matches a method prototype of said first exposed database connectivity method; and,

performing at least one auxiliary task in addition to forwarding said database connectivity request.

7. The database access method of claim 6, further comprising performing each of the receiving, forwarding and performing steps in an edge device.

8. The database access method of claim 7, wherein said performing step comprises performing a load balancing task.

9. The database access method of claim 7, wherein said performing step comprises performing a database caching task.

10. The database access method of claim 6, further comprising:

collecting meta-data for each received database connectivity request; and,

modifying operation of said auxiliary task based upon an analysis of said collected meta-data.

11. The database access method of claim 10, wherein said modifying step comprises generating rules which direct database connectivity requests to particular instances of a database server which are most likely to respond quickly based upon database latency patterns inherent in said collected meta-data.

12. The database access method of claim 11, wherein said modifying step comprises selectively caching result sets in a database cache based upon request frequency patterns inherent in said collected meta-data.

13. A machine readable storage having stored thereon a computer program for providing database access, the computer program comprising a routine set of instructions for causing the machine to perform the steps of:

receiving a database connectivity request through a corresponding first exposed database connectivity method from a database driven application;

forwarding said database connectivity request to an underlying database connectivity driver through a corresponding second exposed method having a method prototype which matches a method prototype of said first exposed database connectivity method; and,

performing at least one auxiliary task in addition to forwarding said database connectivity request.

14. The machine readable storage of claim 13, further comprising performing each of the receiving, forwarding and performing steps in an edge device.

15. The machine readable storage of claim 14, wherein said performing step comprises performing a load balancing task.

16. The machine readable storage of claim 14, wherein said performing step comprises performing a database caching task.

17. The machine readable storage of claim 13, further comprising:
collecting meta-data for each received database connectivity request; and,
modifying operation of said auxiliary task based upon an analysis of said collected meta-data.

18. The machine readable storage of claim 17, wherein said modifying step comprises generating rules which direct database connectivity requests to particular instances of a database server which are most likely to respond quickly based upon database latency patterns inherent in said collected meta-data.

19. The machine readable storage access method of claim 17, wherein said modifying step comprises selectively caching result sets in a database cache based upon request frequency patterns inherent in said collected meta-data.

IX. EVIDENCE APPENDIX

No evidence submitted pursuant to 37 C.F.R. §§ 1.130, 1.131, or 1.132 of this title or of any other evidence entered by the Examiner has been relied upon by Appellants in this Appeal, and thus no evidence is attached hereto.

X. RELATED PROCEEDINGS APPENDIX

Since Appellants are unaware of any related appeals and interferences, no decision rendered by a court or the Board is attached hereto.